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93/W/CS/375 Take-all Epidemics - W. Wheat

Rothamsted Research

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93/W/CS/375

TAKE-ALL EPIDEMICS

Object: To determine whether severe take-all (*Gaeumannomyces graminis*) can be caused by artificial inoculum in winter wheat and to determine the distribution of such infection within the crop - Woburn, Butt Close I.

Sponsors: G. L. Bateman, D. Hornby.

The second year, w. wheat

For previous year see 92/W/CS/375

Design: 3 randomised blocks of 6 x 2, plus 2 extra plots.

Whole plot dimensions: 2.5 x 6.0.

Treatments: All combinations of:-

1. **SOW DATE[92]** Date of sowing in autumn 1991:

(E) Early
(L) Late (4 weeks later)

2. **INOCULTN[92]** Weight (kg) of inoculated oat seed applied by combine drill in autumn 1991 and spring 1992:

	Autumn (E)	Autumn (L)	Spring
(0)	Nil	Nil	-
(1)	Nil	200	-
(2)	200	200	-
(3)	400	200	-
(30)	400	200	Nil
(3S)	400	200	500

plus 2 extra plots, systematically arranged with treatments 0 and 2.

NOTE: INOCULTN[92] (0), (1), (30): Nil occurs where empty drill was drawn across plots.

Experimental diary:

21-Sep-92 : B : Ploughed.
07-Oct-92 : B : Rotary harrowed, Mercia, undressed, drilled at 380 seeds per square metre.
15-Mar-93 : B : 34.5% N at 120 kg.
15-Apr-93 : B : Ally at 30 g and Deloxil at 1.0 l in 200 l.
29-Apr-93 : B : 34.5% N at 460 kg.
01-Jun-93 : B : Mistral at 0.50 l and Halo at 2.0 l in 200 l.
17-Aug-93 : B : Combine harvested.

NOTE: Plant samples were taken for take-all assessment in spring and summer.

93/W/CS/375

GRAIN TONNES/HECTARE

***** Tables of means *****

INOCULTN	(0)	(1)	(2)	(3)	(30)	(3S)	Mean
SOW DATE							
(E)	2.97	2.61	3.41	3.21	4.11	3.69	3.33
(L)	4.33	3.95	4.24	3.40	4.30	4.68	4.15
Mean	3.65	3.28	3.83	3.30	4.20	4.19	3.74

*** Standard errors of differences of means ***

SOW DATE	INOCULTN	SOW DATE INOCULTN
0.222	0.384	0.543

***** Stratum standard errors and coefficients of variation *****

Stratum	d.f.	s.e.	cv%
BLOCK.WP	22	0.665	17.8
GRAIN MEAN DM%	86.3		
PLOT AREA HARVESTED	0.00130		